Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services

STATEMENT OF BASIS

Geismar Plant CELOGEN® AZ Unit
CHEMTURA USA CORP.
Geismar, Ascension Parish, Louisiana
Agency Interest Number: 1433
Activity Number: PER20020016
Draft Permit 514C-V2

The regulatory basis for the Statement of Basis is found in 40 Code of Federal Regulations (CFR) § 70.7 Permit issuance, renewals, reopenings, and revisions, subsection (a), paragraph (5) and the Louisiana Administrative Code (LAC), Title 33, Part III. AIR. Specifically §531. Public Notice and Affected State Notice, subsection A, paragraph 4. LAC 33:III.531.A.4 states:

> "The permitting authority shall provide a statement that sets forth the legal and factual basis for the proposed permit conditions of any permit issued to a Part 70 source, including references to the applicable statutory or regulatory provisions. The permitting authority shall send this statement to any person who requests it and to EPA."

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I. APPLICANT:

Company:
CHEMTURA USA CORP.
P.O. Box 397
Geismar, Louisiana 70734

Facility:
CHEMTURA USA CORP. - Geismar Plant, CELOGEN® AZ Unit
36191 Highway 30, Geismar, Ascension Parish, Louisiana
Approximate UTM coordinates are: 691.69 kilometers East and 3342.72 kilometers North, Zone 15

II. FACILITY AND CURRENT PERMIT STATUS:

Chemtura USA Corporation operates an integrated chemical production facility approximately 0.9 miles from Geismar, in Ascension Parish. Ascension Parish is currently designated as "marginal" non-attainment for the 8-hour ozone national ambient air quality standard, VOC and NOx are the regulated air pollutants for ozone. The Geismar facility is a major source subject to the Part 70 operating permit program because it has the potential to emit 100 or more tons per year of VOC and NO_x. In addition, this facility has the potential to emit 10 or more tons per year of a single TAP and 25 or more tons per year of aggregate TAPs/HAPs.

Chemtura's facility is bordered by BASF Corporation to the south, Rubicon to the west, Westlake Chemicals to the north and Louisiana Highway 30 to the east. Nearest residences to the site are communities located in Geismar, Louisiana and on LA. Highway 73. In 2001, the company's name was changed from Uniroyal Chemical Co., Inc. to Crompton Manufacturing Company, Inc. In 2006, the company's name was changed to Chemtura USA Corporation. This facility produces synthetic rubber and specialty rubber chemicals used as processing aids, anti-ozonants, and accelerators in the synthetic rubber and plastics processing industry in producing such items as automobile tires, rubber hoses, foam rubber gaskets, roofing shingles, etc.

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The process units that exist on this site include: FLEXZONE®, THIAZOLES®, CELOGEN® OT-MBT, CELOGEN® AZ, maleic hydrazide/mercaptobenzothiazole (MH/MBT), para-aminodiphenylamine (UBOB), 2,6-di-tertiary-butyl-paracresol/2,2-dimethylhydrazide (BHT/B-NINE) and Naugalube® 438L. Other units, produce EPDM synthetic rubber, ROYALENE®/TRILENE® Unit. Support processes on site include a maintenance/lab area and several wastewater treatment plants.

Timely applications for initial Part 70 Title V permits were submitted by the company and all corresponding initial Part 70 Title V permits have been granted by the permitting authority.

This Part 70 operating permit is for the CELOGEN® AZ Unit which operates under Permit Number 514C-V1, dated August 28, 2002. The CELOGEN® AZ Unit has been in operation since 1975.

Initial/Modification Title V Part 70 permits that were issued by the department include:

Permit #	Units or Sources	Date Issued
2099-V1	THIAZOLES® Unit	11/12/2003
2305-V1	Sulfur Recovery Unit	10/16/2003
2551-V0	Maintenance/Lab	06/30/1998
2327-V2	MH/MBT Unit	10/25/2003
514C-V1	CELOGEN® AZ Unit	08/28/2002
2292-V1	Wastewater Treatment Plant	12/30/2004 and amended 05/19/2005
2333-V1	Flexzone Unit	12/30/2004 and amended 04/20/2005
2572-V2	BHT/B-NINE Unit	01/14/2005
2531-V1	Royalene WWTP	02/25/2005 and amended 07/08/2005
2242-V1	CELOGEN® OT-MBT Unit	08/26/05
2041-V0 (0180-00012-V0)	Royalene and Trilene Units	08/05/2005 and amended 12/22/2005
2572-V3	BHT/B-NINE Unit	11/10/2005
1186C-V0	UBOB Unit	05/18/2006

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Initial/Renewal/Modification Title V Part 70 permits that are under review by the department include:

Permit #	Units or Sources	Date Issued
2099-V2	THIAZOLES® Unit	Permit Pending
2551-V1	Maintenance/Lab	Permit Pending
514C-V2	CELOGEN® AZ Unit	Permit Pending

III. PROPOSED PERMIT / PROJECT INFORMATION:

Proposed Permit

A permit modification/renewal application and updated Emission Inventory Questionnaire (EIQ), was submitted by Chemtura USA Corp on December 30, 2002 renewal of the Part 70 Operating Permit. On February 2, 2005, Chemtura submitted a revised application and EIQ. Additional information dated December 14, 2004, May 11 and 15, 2006 was also received.

A notice requesting public comment on the permit was published in The Advocate, Baton Rouge, Louisiana, on XXX XX, 2006; and The Gonzales Weekly, Louisiana, on XXX XX, 2006 and Published in the Office of Environmental Services Public Notice Mailing List on XXX XX, 2006. The proposed permit was also submitted to U.S. EPA Region VI for review and comment. All comments will be considered prior to the final permit decision.

Project description

The CELOGEN® AZ Unit consists of a combination of batch and continuous operating processes that produce foaming agents used in the manufacture of foam rubber and plastic goods, such as foam mattresses, automobile soft dashboards, door gaskets, etc.

CELOGEN® AZ is one of two blowing agents made at Chemtura's Geismar Facility. ONRO®, a CELOGEN® AZ intermediate, is produced by reacting hydrazine with liquid urea. This intermediate is pumped over a quench tank, vacuum filtered, water washed, and then sent to the reslurry tank. ONRO® is then fed to batch reactors where it is

reacted with sodium bromide and chlorine to form CELOGEN® AZ product. Crude CELOGEN® AZ product is centrifuged, water washed. Ammonia gas and water vapor from the ONRO® reactor are routed to the ammonia scrubber. Mother liquor from the filter is temporarily stored and then recycled to the ONRO® scrubber reactors. Filtrate from the centrifuge is collected at the sump and then disposed of by deep well injection.

Permitted Air Emissions

This modification/renewal permit allows for the following:

- An increase in the emission rate of particulate matter from several emission points identified as EQT65, EQT78, EQT79, EQT80, EQT81, and FUG3.
- An increase in the emission rate of ammonia from several emission points identified as EQT71, and EQT76.
- A change in the name of several emission points to more accurately describe the associated equipment/emission source, identified as EQT80 and EQT81.
- Deletion of emission point EIQ 1210 as the dust collector was never installed.
- Reconciliation and updates to several emission calculations and rates to reflect current operations for EQT078, EQT082 and EQT083.

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM_{10}	29.29	30.19	+ 0.90
SO_2	-	-	-
NO_X	-	-	-
CO	-	-	-
VOC	-	-	-

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Non-VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
Chlorine[1]	0.589	0.589	0.0
Hydrogen Chloride[1]	0.390	0.390	0.0
Ammonia	9.896	10.170	+0.274
Zinc Compounds	0.093	0.093	0.0
Total	10.968	11.242	+0.274

[1]Pollutant is a HAP pursuant to Section 112 of the CAA.

Air Modeling Analysis

For modeling analyis refer to Section VII of the draft Part 70 permit.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to Section VIII of the draft Part 70 permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to Section IX of the draft Part 70 permit.

IV. Regulatory Analysis

The applicability of the appropriate regulations is straightforward and provided in the Facility Specific Requirements Section of the draft permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms conditions and standards are provided in the Facility Specific Requirements Section of the draft permit.

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Prevention of Significant Deterioration Applicability/Nonattainment New Source Review

There is no physical change or change in the method of operations that result in a significant increase. The modifications/revisions proposed in this application do not trigger PSD/NNSR review.

Maximum Achievable Control Technology (MACT) Requirements

The CELOGEN® AZ Unit is part of a facility which is a major source of toxic air pollutants (TAPs) pursuant to LAC 33:III.Chapter 51. The toxic air pollutants that emit from the CELOGEN® AZ Unit are all Class III pollutants and MACT is not required. Impact of these pollutants on air quality is in compliance with the Louisiana Toxic Air Pollutant Ambient Air Standards.

National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing

The requirements of Subpart FFFF applies to any one who owns or operates a miscellaneous organic chemical manufacturing process unit (MCPU), located at, or are part of, a major source of hazardous air pollutants (HAP) emissions as defined in section 112(a) of the Clean Air Act (CAA). The CELOGEN® AZ Unit does not process, produce, or emit any organic HAP, PM HAP, HAP as defined by the MON/40 CFR 63 Subpart FFFF Tables and/or it has uncontrolled emissions of halogen HAP (HCl) less than 1000 pounds per year., therefore, it is exempt from control as provided in the MON.

Because the CELOGEN® AZ Unit Fugitive Emissions do not contain any organic HAPs, leak detection and repair (LDAR) requirements are not applicable per the MON.

40 CFR 64-Compliance Assurance Monitoring (CAM) Rule

Compliance Assurance Monitoring (CAM) is applicable to the facility, however, the CELOGEN® AZ Unit does not have any emission unit with a potential to emit greater than or equal to 100% of the major source threshold before taking controls into account and because either: (1) the product is conveyed through the process pneumatically and filter bags are used to separate the air from the product. Thus, these filters are considered inherent process equipment and are not control devices; (2) the control device is controlling a process with an emission limitation or standard proposed by the Administrator that was promulgated after November 15, 1990 and is subject to Section

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111 or 112 of the Act; or (3) the pollutant is not a regulated air pollutant (or surrogate thereof) pursuant to the Clean Air Act of 1990 as amended.

V. Permit Shields

A permit shield was not requested.

VI. Periodic Monitoring

The Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are provided in the Facility Specific Requirements Section of the proposed permit.

VII. Applicability and Exemptions of Selected Subject Items

See Permit.

VIII. Streamlined Requirements

None

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IX. Glossary

Ammonia is a compound of nitrogen and hydrogen with the formula NH_3. At standard temperature and pressure ammonia is a gas. It is toxic and corrosive to some materials, and has a characteristic pungent odor. Ammonia used commercially is called anhydrous ammonia to distinguish it from ammonium hydroxide solution, which is household ammonia.

Best Available Control Technologies (BACT) - An emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under this part which would be emitted from any proposed major stationary source or major modification which the administrative authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

Carbon Monoxide (CO) – A colorless, odorless gas which is an oxide of carbon.

Grandfathered Status- Those facilities that were under actual construction or operation as of June 19, 1969, the signature date of the original Clean Air Act. These facilities are not required to obtain a permit. Facilities that are subject to Part 70 (Title V) requirements lose grandfathered status and must apply for a permit.

Halide - A binary compound , of which one part is a halogen atom and the other part is an element or radical that is less electronegative than the halogen, to make a fluoride , chloride , bromide , iodide, etc.

Hydrogen chloride, also known under the name HCl, is a highly corrosive and toxic colorless gas that forms white fumes on contact with humidity. These fumes consist of hydrochloric acid which forms when hydrogen chloride dissolves in water.

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Hydrogen Disulfide (H_2S) - A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the action of acids on metallic sulfides, and is an important chemical reagent.

Hydrogen halide and halogen HAP means hydrogen chloride, hydrogen fluoride, and chlorine.

Maximum Achievable Control Technology (MACT) - The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

New Source Review (NSR) - A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C ("Prevention of Significant Deterioration of Air Quality") and D ("Nonattainment New Source Review").

Nitrogen Oxides (NO_x) - Compounds whose molecules consists of nitrogen and oxygen.

Nonattainment New Source Review (NNSR) - A New Source Review permitting program for major sources in geographic areas that do not meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. Nonattainment NSR is designed to ensure that emissions associated with new or modified sources will be regulated with the goal of improving ambient air quality.

Organic Compound - Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

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Part 70 Operating Permit- Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10}- Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) - The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulphur.

Title V permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) - Any organic compound which participates in atmospheric photochemical reactions; that is, any organic compound other than those which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.

Zinc is a moderately reactive metal that will combine with oxygen and other non-metals, and will react with dilute acids to release hydrogen.